HOW TO COOK

WITH

LOW PRESSURE NATURAL GAS

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"THE 2,000,000 DOMESTIC NATURAL GAS CONSUMERS IN THE UNITED STATES COULD SAVE AT LEAST $36,000,000 WORTH OF GAS ANNUALLY, IF THEIR COOKING APPLIANCES WERE PROPERLY ADJUSTED FOR LOW PRESSURE GAS SERVICE."

UNITED STATES FUEL ADMINISTRATION

Sec. 1—Properly Directed Flames Necessary

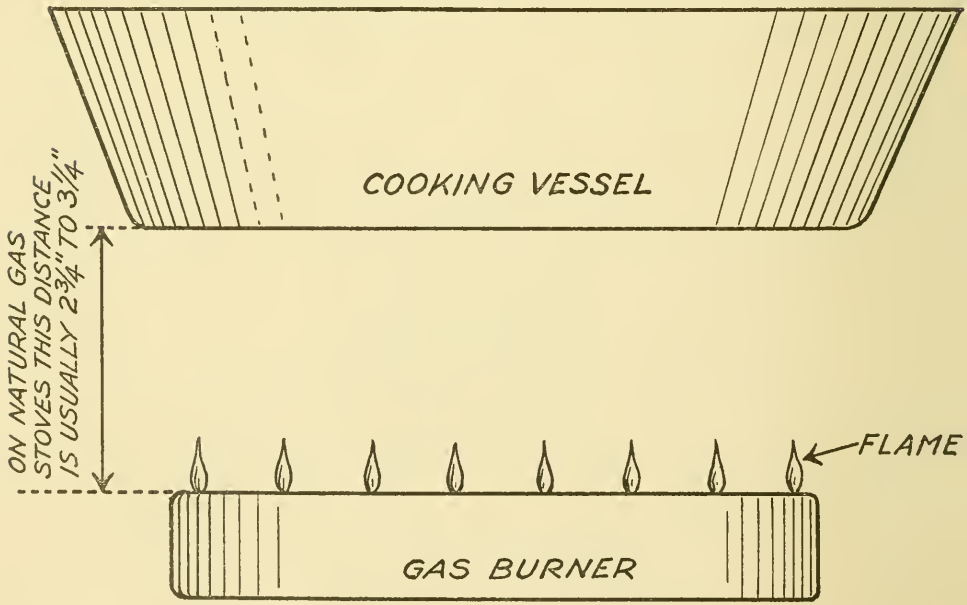
In burning gas for cooking three distinct steps are necessary:*

a The gas must be properly burned; that is, it must be properly mixed with air so as to burn with a pale blue non-luminous flame. A luminous flame will be wasteful and will deposit soot on the cooking vessel.

b The flame must be properly directed; that is, the tip of the flame must come close to the cooking vessel. If the flame is too short to reach the cooking vessel, or is blown to one side by a strong draft of air, gas will be wasted, a longer time will be required, and if the flame tip is too far away it may be impossible to cook, although the short improperly directed flames may be kept burning a long time.

c The heat generated by the burning gas must be delivered through the cooking vessel walls and into the food. Hence, thin vessels and grid or open stove tops are necessary for good service. Natural gas should never be used under a solid stove top because it is always wasteful and under low pressure conditions may make cooking impossible.

Sec. 2—Wrong Burner and Vessel Position



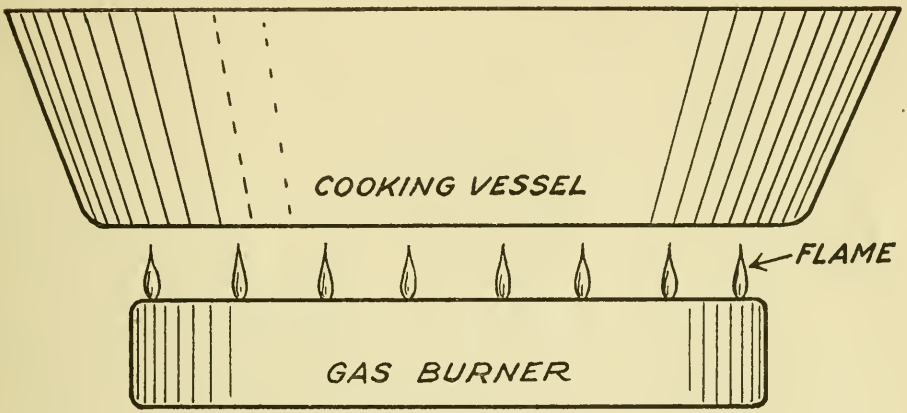
The above shows what happens when low pressure natural gas is burned in the usual natural gas stove. The cooking vessel is so far away that the short flames cannot

*For further discussion of gas use, see Bulletins of the Department of Home Economics, Ohio State University, Columbus, Ohio, on:
"Effect of gas pressure on natural gas cooking operations in the home."
"Kitchen tests of relative costs of five fuels for cooking." Reprinted October, 1918.

reach it. This results in waste of gas, longer time to cook, and in some cases impossibility to cook at all, even though the gas may be burned for a long time.

Sec. 3—Correct Burner and Vessel Position

Merely lowering the cooking vessel or raising the burner, as shown below, will result in satisfactory cooking, in the usual length of time with same low pressure, same stove and same burner. In fact, using properly directed short flames at low pressure, as shown below, will actually use less than one-half of the gas required with the usual high pressure and resulting long flames.



Sec. 4—How to Get Vessel and Burner in Correct Position

For permanent service in purchasing new stoves, get either an artificial gas stove or a natural gas stove with burners properly raised for short flame service. Old stoves worth remodeling may be changed by:

a Raising the burner, burner supports, and manifold —that is, pipe into which gas burner cocks are screwed.

b New burner castings of proper height for short flames may be secured for some stoves.

c Cementing casting on top of existing burners so as to bring the burner top to the proper height.

d Depressed grid tops to bring the vessel support down to the low burners.

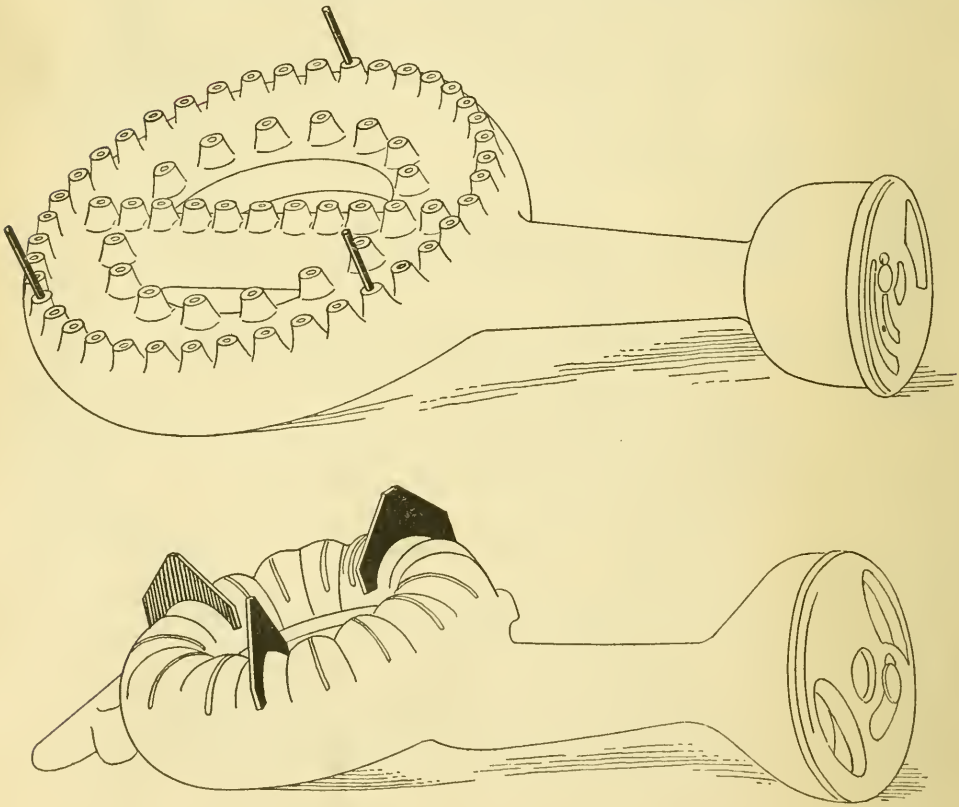
Closed tops must never be used and in all cases where burners are raised, grid or open tops must be used with the short flames.

A larger sized spud opening—that is, the small opening immediately in front of the gas cock through which the gas passes into the mixer—should be used with low pressure service. Some stoves have adjustable spuds; others must either have new spuds or have the old small openings reamed larger.

If the pressure in the gas mains is too high, the more efficient short flame low pressure conditions can still be maintained by merely partially opening the gas cock. Never let the flame lick up along the side of the vessel.

Baker burners need not be raised, because the heat from the burning gas is already inside of the chamber to be heated. The spud and mixer must, however, be properly adjusted so as to get a pale blue non-luminous flame.

As a temporary means, remove the stove top and on drilled burners insert three wire nails and on slotted burners, three pieces of sheet-iron, for supporting the cooking vessel as shown below, so that the tip of the short low pressure flame comes close to the vessel bottom.



Dirty gas burners frequently prevent proper cooking operations.